(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 February 2009 (05.02.2009)

PCT

(10) International Publication Number
WO 2009/018373 A3

(51) International Patent Classification:
A61K 9/70 (2006.01) *A61K 31/465* (2006.01)
A61K 9/06 (2006.01) *A61K 31/44* (2006.01)

(21) International Application Number:
PCT/US2008/071638

(22) International Filing Date: 30 July 2008 (30.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/953,062 31 July 2007 (31.07.2007) US

(71) Applicants *(for all designated States except US)*: **TARGACEPT, INC.** [US/US]; 200 East First Street, Suite 300, Winston-salem, North Carolina 27101 (US). **ASTRAZENECA AB** [SE/SE]; Global Intellectual Property, S-151 85, S-151 85 Sodertalje (SE).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **BENCHERIF, Merouane** [US/US]; 104 Brampton Court, Winston-salem, North Carolina 27106 (US). **JAMES, John W.** [US/US]; 2410 Maplewood Avenue, Winston-salem, North Carolina 27103 (US). **WILLIAMS, PH.D., Michael G.** [US/US]; 3144 Allerton Lake Drive, Winston-salem, North Carolina 27106 (US). **NEELISSEN, Johannes Antonius Maria** [NL/SE]; S-151 85, S-151 Sodertalje (SE).

(74) Agent: **MASSEY, JR., Carl B.**; Womble Carlyle Sandridge & Rice, PLLC, Attention: Patent Docketing, P. O. Box 7037, Atlanta, Georgia 30357 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
26 March 2009

(54) Title: TRANSDERMAL ADMINISTRATION OF (2S) - (4E) -N-METHYL-5- (3- (5-ISOPROPOXYPYRIDIN) YL) -4-PENTEN-2-AMINE

(57) Abstract: The present invention generally relates to the transdermal administration of (2S)-(4E)-N-methyl-5-(3-(5-isopropoxypyridin)yl)-4-penten-2-amine, or pharmaceutically acceptable salts thereof. The transdermal administration can be effected using transdermal drug delivery devices, semi-solid dosage forms, or iontophoresis. The drug delivery devices and/or semi-solid dosage forms can provide instantaneous release, sustained release, or combinations thereof, and can include permeation enhancers and other components to assist in drug transport across the dermis, especially the epidermis. The compositions can be used to treat and/or prevent any indication which the active ingredients are capable of treating and preventing, but deliver (2S)-(4E)-N-methyl-5-(3-(5-isopropoxypyridin)yl)-4-penten-2-amine, or pharmaceutically acceptable salts thereof, in an efficacious manner. Disorders that can be treated and/or prevented include central nervous system disorders, addictions, pain, and inflammation.

WO 2009/018373 A3